Work Order ID 114779

March-11-14 4:12:37 PM

114779

Item ID: D4635-4 **Accept** *N9000040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Aft Ceiling Panel, RH

Start Date: 12/03/2014 **Start Qty:** 1.00 *1*

Required Date: 12/03/2014 **Req'd Qty:** 1.00 *1*

Reference:

Cust Item ID:

Customer:

Approvals: **Process Plan:** ML5 **Date:** 14-03-12 **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*

Stop *NR2*

Draw Nbr	Revision Nbr
D4635	E

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
100	HAND FINISHING THERMOFORMING	0.00							DAS 07 9-89
100 Thermoform Thermoforming Machine	**Memo** Cut Blanks	0.00				x1			14/04/03
105	Dry Material	0.00							DAS 07 9-89
105 HandThermo Hand Finishing Thermoforming	**Memo** Dry Sheet as per QSI022 POLYCARBONATE	0.00				x1			14/04/03

Temp: ~~245 deg. F~~

Time IN: ~~5:00 PM~~

Time OUT: ~~6:00 AM~~

APR 0 3 2014

Per..

245 deg. F
5:00 PM
6:00 AM

APR 2 9 2014

Per.....

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric
☐ Cracks
☐ Crimp/Kink/Ripple/Wave
☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damage/Defect
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
☐ Drill Holes
☐ Finish
☐ Fit/Function
☐ Folio/Program
☐ Grain
☐ Hardware
☐ Inspection Incomplete/Unqualified
☐ Instructions Incomplete/Unclear
☐ Misaligned/off center
☐ Mislabeled
☐ Misread
☐ Off-set
☐ Out of Calibration
☐ Out of Sequence
☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other

Item ID: D4635-4 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Aft Ceiling Panel, RH
Start Date: 12/03/2014 **Start Qty:** 1.00 *1*
Required Date: 12/03/2014 **Req'd Qty:** 1.00 *1*
Reference:
Cust Item ID:
Customer:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*
Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110		0.00							DAS 07 9-89
110	THERMOFORMING MACHINE					x1			
Thermoform	**Memo**	0.00							14/04/03
Thermoforming Machine	Thermoform as per Dwg. D4635-4 and Folio FTA150								
	Dwg. Rev. E								
	Folio Rev. D								
	Visually inspect for proper formation and texture								
130		0.00							
130	HAND FINISHING THERMOFORMING					X1			B 14/05/01
Thermoform	**Memo**	0.00							
Thermoforming Machine	Trim to Finished Dimensions								
140	QC6- Inspect dimensions to drawing	0.00							DAS 27 9-89 14/5/5
140	Dimensional Inspection					1			Pho
QC	**Memo**	0.00							
Quality Control	Flll out Inspection Sheet Rev A								

DQA: [signature] Date: 14/05/10

QA Closed: KH Date: 14/5/18

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

Work Order update only ☐

Work Order: 114779

Part No. D4635-4

NCR No. 14-3770

DISPOSITION

Rework	☐
Scrap	☒
Use-as-is	☐
Suspected Unapproved	☐

AGAINST DEPARTMENT/PROCESS

Skid-tube	☐	Crosstube	☐	Water Jet	☐	Engineering	☐
Machining	☐	Small Fab	☐	Prod. Eng. Coor.	☐	Quality	☐
Thermoforming	☒	Finishing	☐	Rec/Store/Packaging	☐	Other	☐
Large Fab	☐	Composite	☐	Supplier	☐		

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐				inner Ridge "Detail L"	DAS 16 9-89	SCRAP + Destroy	[signature] 14/05/05	DAS 27 9-89 14/5/5	DAS 16 9-89
Doc/Data	☐				found to have moved		And Replace M128668-			
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☒	14/04/24	140	pl	*See NCR 14-3770 Attached*	QS2042 14/04/24				QS2042 14/04/24
Offset/Setup	☐									
Process	☐				RC molds not Reversed					
Supplier	☐				before each Part is Pulled					
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐	Bending
☐	Centre Not Concentric
☐	Cracks
☐	Crimp/Kink/Ripple/Wave
☐	Cuffs
☐	Crushing
☐	Heat Treat
☐	Inspection Strip in Tube
☐	Marks/Chatter
☐	Turning Sequence
☐	Wave/Twist in Tube

General

☐	Bend
☐	BOM/Route
☐	Broken/Damage/Defect
☐	Burrs
☐	Contamination
☐	Countersink
☐	Cut Too Short
☐	Drawing
☐	Drill Holes
☐	Finish
☐	Fit/Function
☐	Folio/Program
☐	Grain
☐	Hardware
☐	Inspection Incomplete/Unqualified
☐	Instructions Incomplete/Unclear
☐	Misaligned/off center
☐	Mislabeled
☐	Misread
☐	Off-set
☐	Out of Calibration
☐	Out of Sequence
☐	Outside Dimensions
☐	Over/Under tolerance
☐	Part Incorrect
☐	Part Lost/Missing
☐	Part Moved
☐	Positioned Wrong
☐	Power Loss/Surge
☐	Pressure/Forced
☐	Set-up
☐	Temperature/Cure
☐	Weld
☐	Wrong Stock Pulled
☒	Other

Parts / tooling was not Reversed before use -

Non-Conformance Report

Reviewed
DQA:
Date:

Printed on: Thursday, April 24, 2014

Details

Raised Date	Status	Owner	Number
4/24/2014	Open	Forbes, Nigel	NCR14-3770
Target Date	**Standard**		**Severity**
5/16/2014			MAJOR

Process	Audit
Quality Inspection	

Raised By Person	Raised Against (Department or Supplier)	Fault Category
Downing, Eric M	Manufacturing\Thermoforming	General\Part Moved

Details

found when inspecting D4635-4 B#114676 that the inner ridge (detail L) had moved closer to hole pattern Detail E. after preforming a spot inspection on the thermoformed mould it was found that section of the mould was lose and not properly secured to the mould.

Keywords	Product
	D4635-4
Document	**Root Cause**

Closed By	Closed Date	Resolution

Corrective Action

Target Date	Owner	Closed Date	Closed By
5/16/2014	Downing, Eric M		

Details

Actions

Number	Owner	Target Date	Completed Date
Details		**Response**	
1	Downing, Eric M	4/25/2014	4/24/2014
inspect all pannels that have been formed and ensure that they do not have the same issuerecord on quarantine list and attach to NCR		following parts are to be scrapD4635-4 B114781D4635-4 B114780D4635-4 B114779D4635-4 B114676	
2	Leger, Daryl	5/9/2014	
update work orders to have at the begging step #100 a note to verify moulds before forming parts			

Verification & Review			
Target Date	**Owner**	**Closed Date**	**Closed By**
Details			

Actions			
Number	**Owner**	**Target Date**	**Completed Date**
Details		**Response**	

Item ID: D4635-4
Revision ID:
Item Name: Aft Ceiling Panel, RH
Start Date: 12/03/2014 **Start Qty:** 1.00 *1*
Required Date: 12/03/2014 **Req'd Qty:** 1.00 *1*
Reference:

Accept *N9000040100*

Setup Start *NS1*
Stop *NS2*

Cust Item ID:
Customer:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	QC5- Inspect part completeness to step on W/O	0.00							
150									
QC	**Memo**	0.00							
Quality Control									
160		0.00							
160	Packaging								
Packaging	**Memo**	0.00							
Packaging									
170	QC21- Final Inspection - Work Order Release	0.00							
170									
QC	**Memo**	0.00							
Quality Control									

DAS 27 9:09 N/A

ME

1 SAD 14/05/06

14/5/14

14 05 06

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric
☐ Cracks
☐ Crimp/Kink/Ripple/Wave
☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damage/Defect
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
☐ Drill Holes
☐ Finish
☐ Fit/Function

☐ Folio/Program
☐ Grain
☐ Hardware
☐ Inspection Incomplete/Unqualified
☐ Instructions Incomplete/Unclear
☐ Misaligned/off center
☐ Mislabeled
☐ Misread
☐ Off-set
☐ Out of Calibration
☐ Out of Sequence

☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge

☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled

☐ Other

Picklist Print

March-11-14 4:15:22 PM

Work Order ID: 114779 *114779*

Parent Item: D4635-4 *D4635-4*

Parent Item Name: Aft Ceiling Panel, RH

Start Date: 12/03/2014 **Required Date:** 12/03/2014

Start Qty: 1.00 **Required Qty:** 1.00

Comments: IPP Rev. A New Issue 12/05/07 DL VERIFIED BY:JLM IPP Rev. B Dwg. Update 12/11/08 DL IPP Rev C Dwg. Update 13/07/09 DL IPP Rev. D Dwg, Update, Material Change 13/12/18 DL

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MLEXS.093-F6006-07		Purchased	No			100	sf	840.7600	9.39	10			

MLEXS.093-F6006-07

GE PLASTICS LEXAN SHEET

Location	Loc Qty	Loc Code
MAT023	840.76	
114459	229.26	
123105	38	
124501	573.5	

138668

20 sq ft

14/04/29

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric
☐ Cracks
☐ Crimp/Kink/Ripple/Wave
☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
☐ Wave/Twist in Tube

General

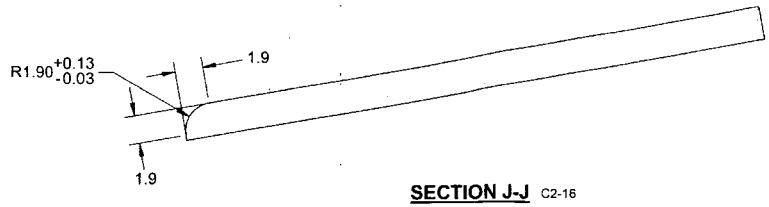
☐ Bend
☐ BOM/Route
☐ Broken/Damage/Defect
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
☐ Drill Holes
☐ Finish
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☐ Folio/Program
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☐ Hardware
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☐ Out of Sequence

☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge

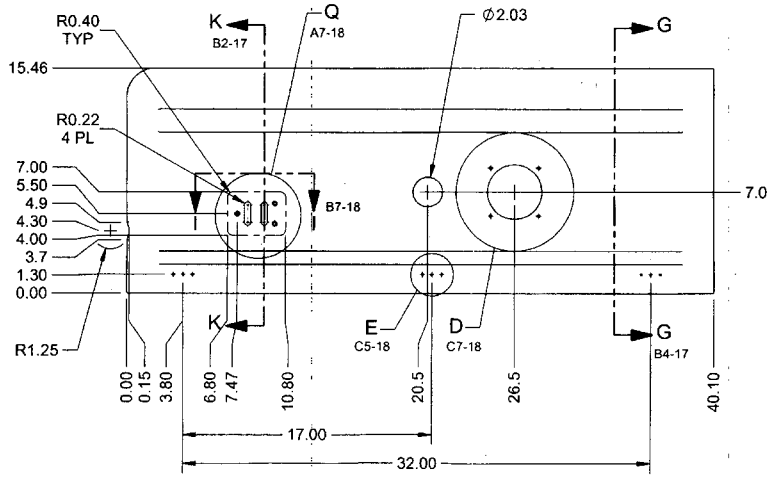
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled

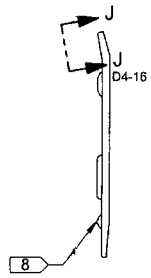
☐ Other



SECTION J-J C2-16

114779 MC5
14-03-12





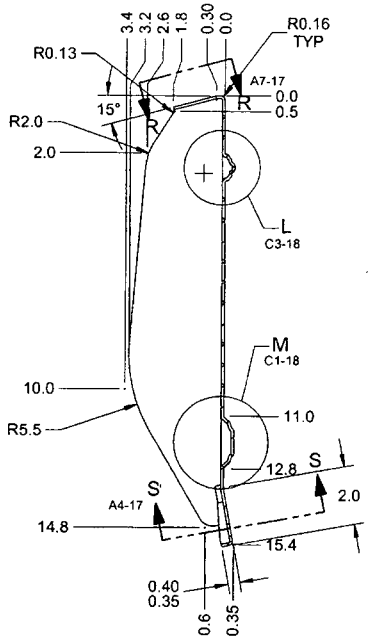
RELEASED
2014-01-22

NOTES:
1) MATERIAL: F6006 SUEDE/POLISHED GY5B133 LIGHT GREY LEXAN SHEET 0.093 THICK
(REF DART SPEC MLEXS.093-F6006-07)
2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: N/A
7) WEIGHT: 2.66 lbs
8) TEXTURE ON THIS SIDE
9) TRIM D4635-4 PER TOOL DT9842
10) THERMOFORM D4635-4 PER QSI 022 USING DT9850 TOOL
MIN. THICKNESS AFTER FORMING:
RIDGES/EDGES = 0.060
ELSEWHERE = 0.070

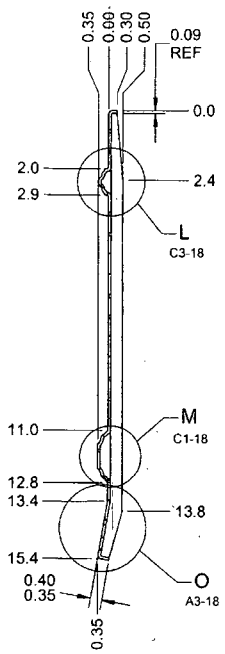
D4635-4 RH, AFT CEILING PANEL

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED	DC	DRAWING NO. D4635 REV. E
MFG. APPR.		SHEET 16 OF 18
APPROVED		TITLE OUTBOARD CEILING PANELS SCALE NTS
DE APPR.		
DATE	14.01.09	

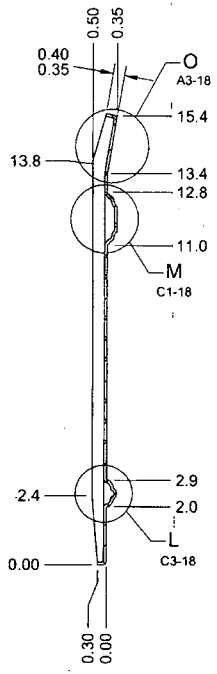
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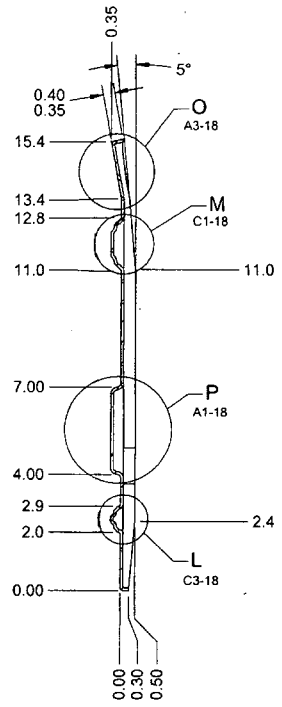
SECTION A-A
SECTION A'-A' OPPOSITE B3-13 B3-14
SCALE 2X



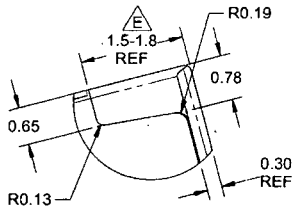
SECTION B-B B7-13 B7-14
SCALE 2X



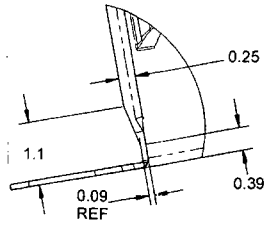
SECTION G-G B4-15 B4-16
SCALE 2X



SECTION K-K C6-16
SCALE 2X



AUXILIARY VIEW R-R
SECTION R'-R' OPPOSITE D7-17
SCALE 2X

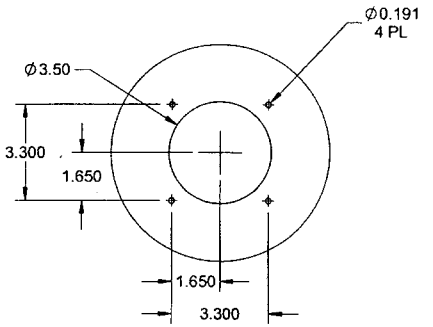


AUXILIARY VIEW S-S
SECTION S'-S' OPPOSITE B7-17
SCALE 2X

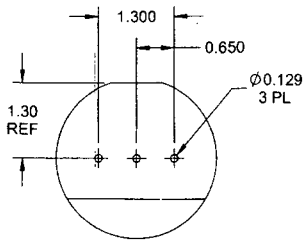
RELEASED
2014-03-22

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED	DC	DRAWING NO. D4635 REV. E
MFG. APPR.		SHEET 17 OF 18
APPROVED		TITLE OUTBOARD CEILING PANELS SCALE NTS
DE APPR.		
DATE 14.01.09		

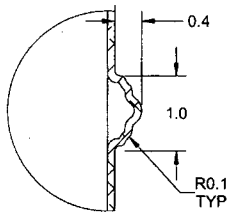
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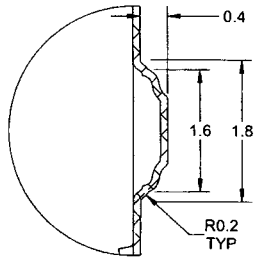
DETAIL D B4-13 B3-14 B5-15 B5-16
SCALE 2X



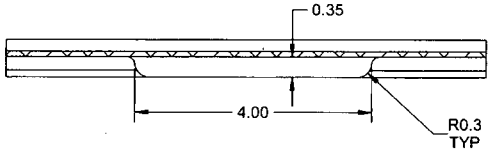
DETAIL E C7-13 B6-14 C6-15 B5-16
SCALE 4X



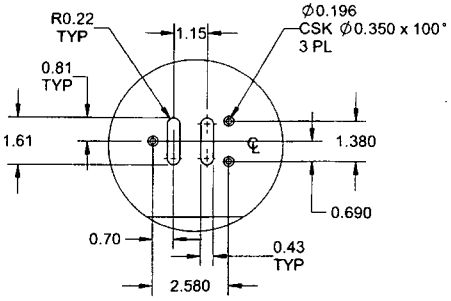
DETAIL L B2-17 B4-17 C5-17 C7-17
SCALE 1.5X



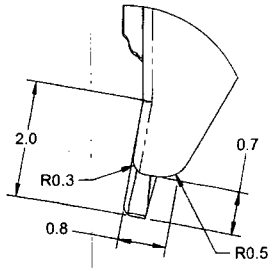
DETAIL M C2-17 C3-17 C5-17 C7-17
SCALE 1.5X



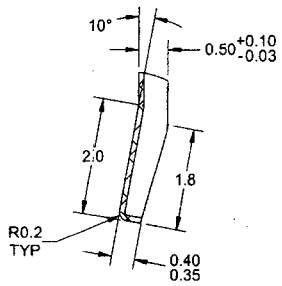
SECTION I-I B5-16
SCALE 4X



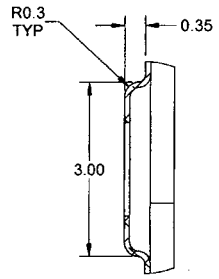
DETAIL Q C5-16
SCALE 2X



DETAIL N B2-13
SCALE 2X



DETAIL O D2-17 D3-17 B5-17
SCALE 2X



DETAIL P C2-17
SCALE 4X

RELEASED
2014 -01- 22

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	DRAWING NO. D4635 REV. E
CHECKED	DC	SHEET 18 OF 18
MFG. APPR.		TITLE OUTBOARD CEILING PANELS SCALE NTS
APPROVED		
DE APPR.		
DATE	14.01.09	

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DART AEROSPACE LTD

Description: Aft Ceiling Panel RW		**Work Order:**	114729
Inspection Drawing: 4635-4	**Rev:** E	**Part Number:**	D4635-4

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
3.80	+/-0.030	3.80	✓		M-T	EAS 05
17.00	+/-0.030	17.00	✓		↓	
32.00	+/-0.030	32.00	✓			
7.47	+/-0.030	7.47	✓			
20.5	+/-0.100	20.5	✓			
26.5	+/-0.100	26.5	✓			
7.0	+/-0.100	7.0	✓			
5.50	+/-0.030	5.50	✓		↓	
Ø2.03	+0.012 -0.001	Ø2.03	✓		Vern	SEAS-08
3.300	+/-0.010	3.300	✓			
1.650	+/-0.010	1.650	✓			
3.300	+/-0.010	3.300	✓			
1.650	+/-0.010	1.650	✓			
Ø0.191	+0.005 -0.001	Ø0.191	✓			
Ø3.50	±0.010	Ø3.50	✓			
1.300	+/-0.010	1.300	✓			
0.650	+/-0.010	0.650	✓			
Ø.129	+0.005 -0.001	Ø0.129	✓			
1.380	+/-0.010	1.380	✓			
0.43	+/-0.030	0.43	✓			
1.61	+/-0.030	1.61	✓		↓	↓

Measured by:	Checked By: DAS 27	QC inspector:	Engineering Approval (*if necessary*):
SAD	0-39		
Date 14/05/01	Date 14/5/5	Date	Date